

CLAIMS

1. A method of collecting a biological fluid comprising:

collecting a biological fluid by natural flow;
5 measuring a fluid flow rate of the biological fluid; and
pumping anticoagulant and/or preservation solution to the
collected biological fluid at a solution flow rate;
wherein the solution flow rate is adjusted while
collecting the biological fluid based upon the measured fluid
10 flow rate to preserve a selected ratio between the collected
biological fluid and the anticoagulant and/or preservation
solution.

2. The method of Claim 1, further comprising:
15 collecting the biological fluid in a collection bag; and
pumping the anticoagulant and/or preservation solution to
the collection bag;

wherein the solution flow rate is adjusted while
collecting the biological fluid based upon the measured fluid
20 flow rate to preserve a selected ratio in the collection bag
between the collected biological fluid and the anticoagulant
and/or preservation solution.

3. The method of Claim 1, wherein the biological fluid
25 comprises blood.

4. The method of Claim 1, wherein measuring a fluid
flow rate of the biological fluid comprises calculating the
variation in weight of the fluid collected.

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5. The method of Claim 1, wherein pumping comprises:
pumping using a peristaltic pump having a variable
rotation speed; and
adjusting the variable rotation speed to obtain the
5 appropriate solution flow rate.

6. A collection machine comprising:

a fluid flow measurement device operable to measure a biological fluid flow rate;

5 a pump operable at a variable rotation speed to pump an anticoagulant and/or preservation solution at a solution flow rate;

wherein the variable rotation speed of the pump is slaved to the biological fluid flow rate.

10 7. The collection machine of Claim 6, further comprising a measuring device operable to measure the weight of a biological fluid collected and further operable to calculate the biological fluid flow rate based upon weight measurements.

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8. The collection machine of Claim 6, further comprising a peristaltic pump.

9. A bag system comprising:
- a biological fluid collection device;
 - a collection bag in fluid communication with the fluid collection device;
 - 5 a solution bag containing anticoagulant and/or preservation solution in fluid communication with the collection bag;
 - a collection machine having:
 - a fluid flow measurement device operable to measure a
 - 10 biological fluid flow rate to the collection bag; and
 - a pump operable at a variable rotation speed to pump an anticoagulant and/or preservation solution from the solution bag to the collection bag at a solution flow rate;
 - wherein the variable rotation speed of the pump is slaved
 - 15 to the biological fluid flow rate; and
 - wherein the solution flow rate is adjusted to maintain a selected ratio of biological fluid and anticoagulant and/or preservation solution in the collection bag.
- 20 10. The system of Claim 9, wherein measurement of pressure within the system is not required to maintain the selected ratio of fluid and solution.
- 25 11. The system of Claim 9, further comprising a first tube operable to provide fluid communication between the collection device and the collection bag.
- 30 12. The system of Claim 11, further comprising a second tube operable to provide fluid communication between the solution bag and the collection bag.

13. The system of Claim 12, further comprising the a circuit opener disposed on the second tube near a connection between the second tube and the solution bag.

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14. The system of Claim 12, further comprising a connector operable to connect the first tube and the second tube.

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15. The system of Claim 12, wherein the first tube is connected to the collection device and the collection bag, and wherein the first tube has a length of at least 15 cm between the connection to the collection device and the connection to the collection bag.

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16. The system of Claim 15, wherein the first tube has a length of at least 25 cm between the connection to the collection device and the connection to the collection bag.

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17. The system of Claim 12, wherein the second tube is compressed by the pump in a compression region, and wherein the compression region has a hardness less than that of the first tube.